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Banking Operations Using Blockchain Technology

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ABSTRACT: As the Blockchain world is booming, there are many companies, music platform, logistics who are adapting the blockchain technology. Integrating Banking system with Blockchain who are adapting the blockchain technology. Integrating Banking system with Blockchain technology can uplift the existing system and help for achieving a more secure and un-hackable network. The main advantages of Blockchain technology in banking sector are that it improves efficiency, enhances security, unchangeable records, quick transaction time and no third party involvement thus decreasing costs. One of the main advantages of blockchain is the history of immutable transactions. Any purchases that have been made once cannot be removed. It is the safest way to avoid fraud, money laundering and promises. In the coming years, Blockchain will spread exponentially to the financial industry. The industry is also investigating the exponential use of Blockchain instances. Blockchain is just not about Bitcoin, but there's a lot more to it yet to be found.

KEYWORDS: Bank Admin, Customer, Bank Manager, Hash key.

I. INTRODUCTION

Today, banks are continuously exploring new ways to do transactions quicker for enhanced customer services by assuring transparency to customers and regulators while ensuring cost efficiency. Blockchain is an essential technology with promising application scenarios in banking industry nowadays. It can transform banking industry and make process more democratic, transparent secure and efficient. Blockchain is a technology that combine several technologies like distributed data storage, consensus mechanism, point-to-point transmission and encryption algorithms.

A Blockchain act as decentralized ledger that keeps track of transactions between two parties effectively. Although these parties have simultaneous access to update digital ledger constant and system virtually impossible to hack. Blockchain will influence for end of money via bitcoin and other crypto currencies in Banking industry. More than 90 central banks involved in Blockchain globally and 80% of banks predicted to initiate Blockchain with distributed ledger technology. So most of the banks on its way to establish blockchain use cases to create huge revolution in banking sector by giving signals of end of traditional banking. Banking industry faced with issues like rising cost of operations, fraudulent attacks on centralized servers and ensuring transparency of the transactions. Most of the banking transactions depend on manual processing and documentation, involve with intermediaries and time



consuming. Blockchain provides solutions for banks as it helps to eliminate intermediaries' transactions and facilitates real-time cryptography transactions. So most of the banks adopted this technology and increased their profit. Blockchain technology is rapidly changing the way assets are transferred, stored and accounted for. Public and private blockchain-based currencies are being developed and utilized by private individuals, companies and even nation-states. These developments are signaling the early stages of an entirely new financial industry and the entrepreneurial opportunities that come with it. As the market capitalization and institutional support for crypto assets grows, banks that develop the infrastructure for crypto asset banking services (including custody, payment processing and lending offerings) will be well positioned to serve customers participating in this new and exciting asset class.

II. RELATED WORK

Banking industry faced with issues like rising cost of operations, fraudulent attacks on centralized servers and ensuring transparency of the transactions. Most of the banking transactions depend on manual processing and documentation, involve with intermediaries and time consuming. The Indian banking industry today is faced with issues such as rising costs of operations, increasing susceptibility to fraudulent attacks on centralized servers and challenges in ensuring transparency.

The proposed work mainly involves three main steps: i) We developed a blockchain technology in banking sector by collecting customer details such as name, email, phone, aadhaar etc to create an account. ii) Bank admin will send a temporary username and password to the registered customer mail. iii) Bank manager will activate the user account. And provides solutions for banks as it helps to eliminate intermediaries transactions and facilitates real-time cryptography transactions. So most of the banks adopted this technology and increased their profit. Following evaluation factors uncover a point-point in the current state process, which could be resolved by a feature of the Blockchain solution. Increases trust, tracability, transparency low cost to store clients data and no single point of failure.

III. METHODOLOGY

A blockchain is a computerized concept for storing data. As information comes in blocks, those squares can be called squares of information. At the point when these squares are bound together, these information blocks become permanent. This implies that when the squares are affixed together, the information can't be changed much. This technology is set apart as a transformation since this innovation permits individuals to keep histories of things, for example, bank balances, cash, properties, characters, clinical records and so forth. Individuals can depend on this innovation as they don't have to fear about anybody altering those records. Here we have divided our project into major three parts customer bank, admin and manager. Customer registers to the bank by providing customer name, phone no, email etc. The bank admin will verify the customer details and send a system generated username and password to the customer mail. Then manager of the bank will activate the customer account after customer will login by using username and password sent by the admin. Customer can send money to other person by adding beneficiary account details in the customer interface and customer can view the transaction details like hash key value, time stamp and money transacted in the customer interface, can also view the account details, balance amount in the account and also update his username and password by entering his/her email id. Bank manager performs some operations like adding money to the customer account, to add employees to bank, can view the employee details and transaction details also.

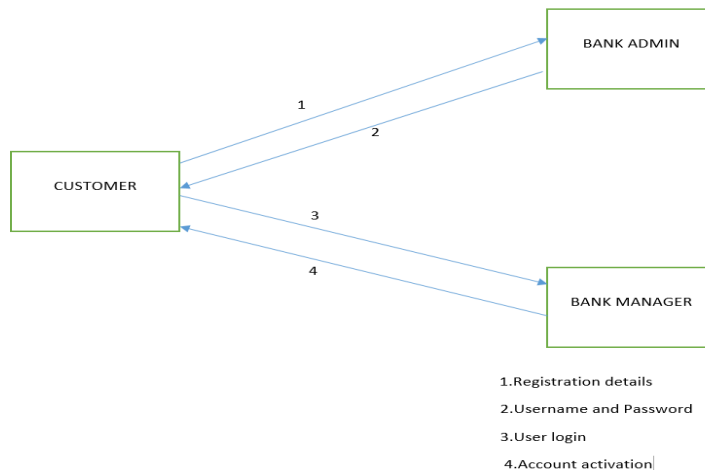


Fig 1: Dataflow diagram

IV. EXPERIMENTAL RESULTS

Figures show the results of banking operations using blockchain technology. Fig (a) shows the interface of customer registration(b) Admin sent username and password to the customer registered email(c) Account activation by manager (d) Add beneficiary to send money(e) transaction details of customer.

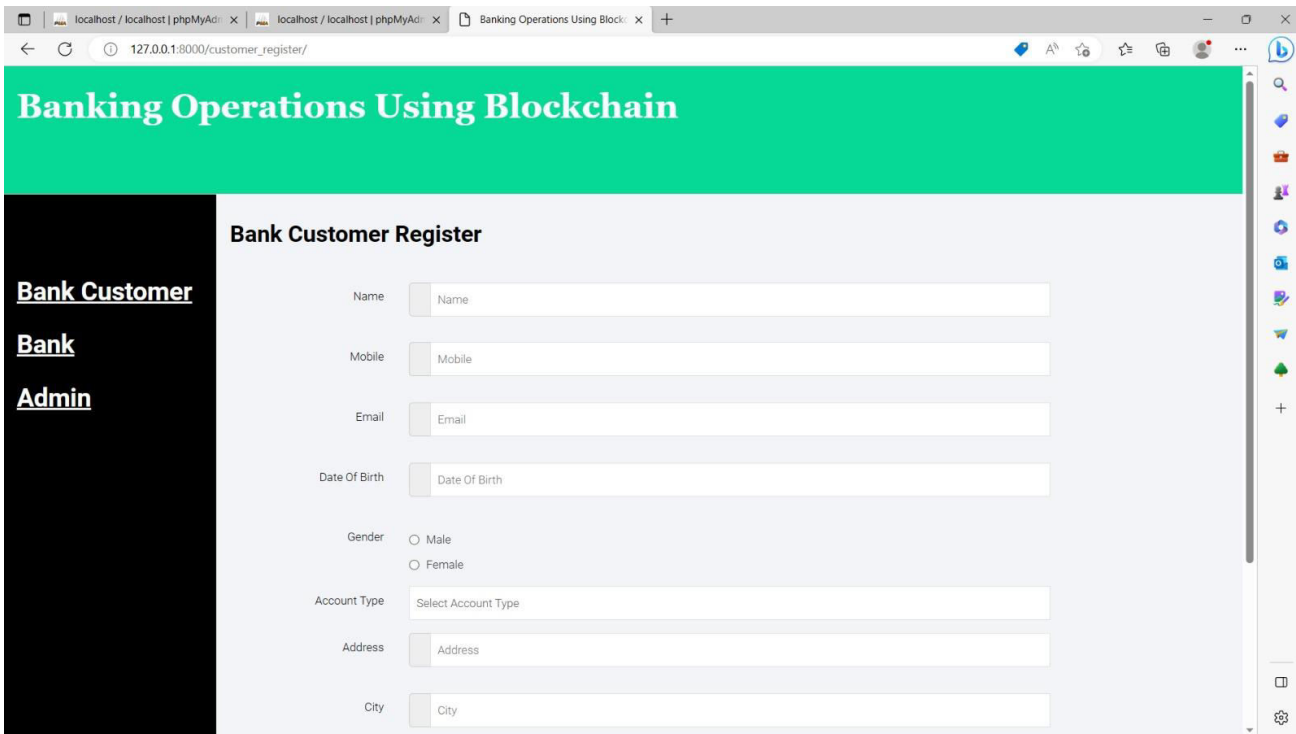


Fig (a) shows the interface of customer registration



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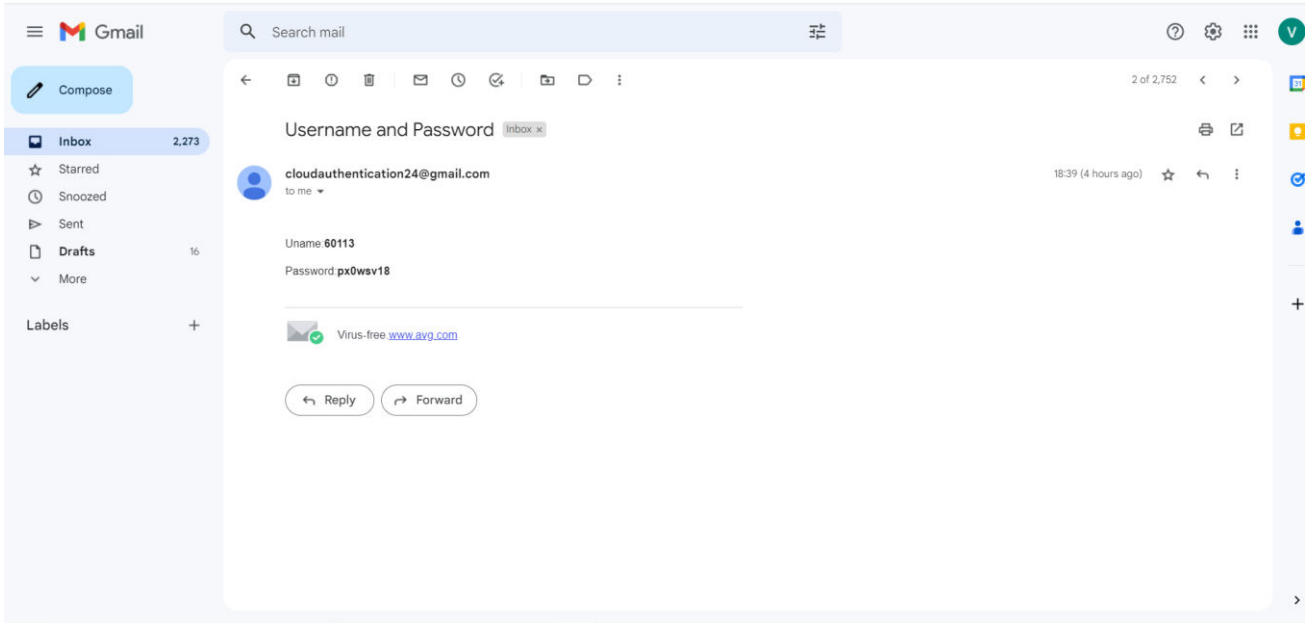


Fig (b) admin sent username and password to the customer registered email

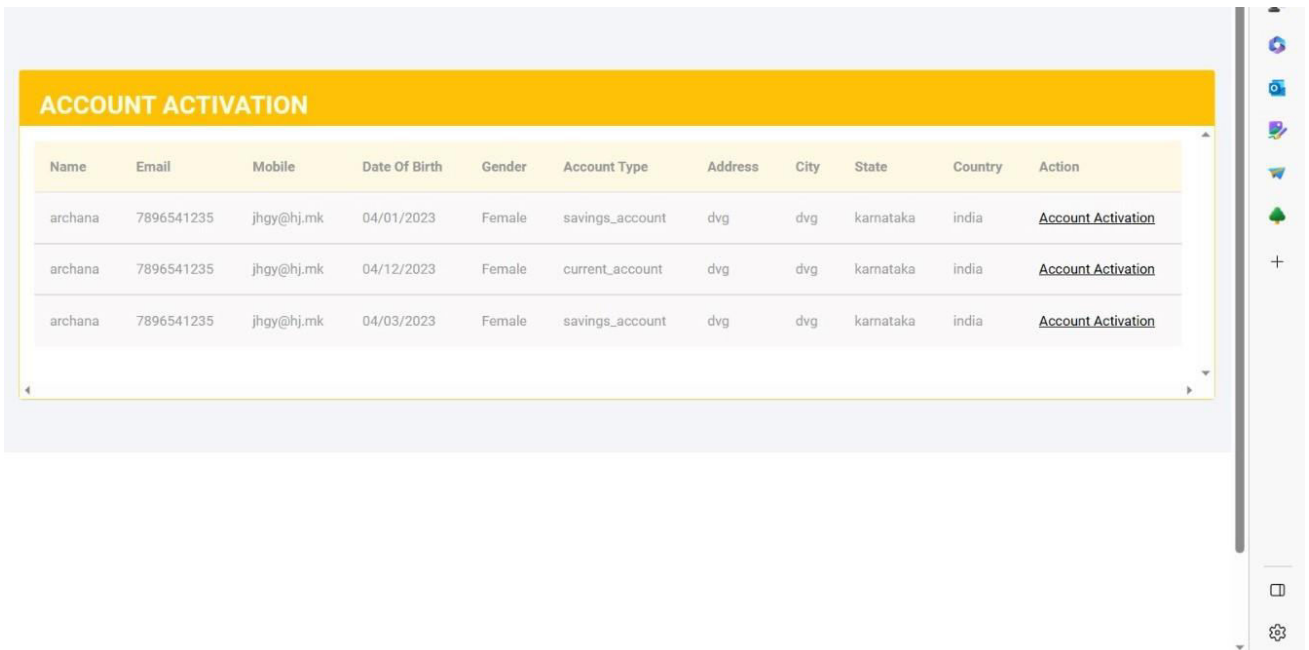


Fig (c) Account activation by manager

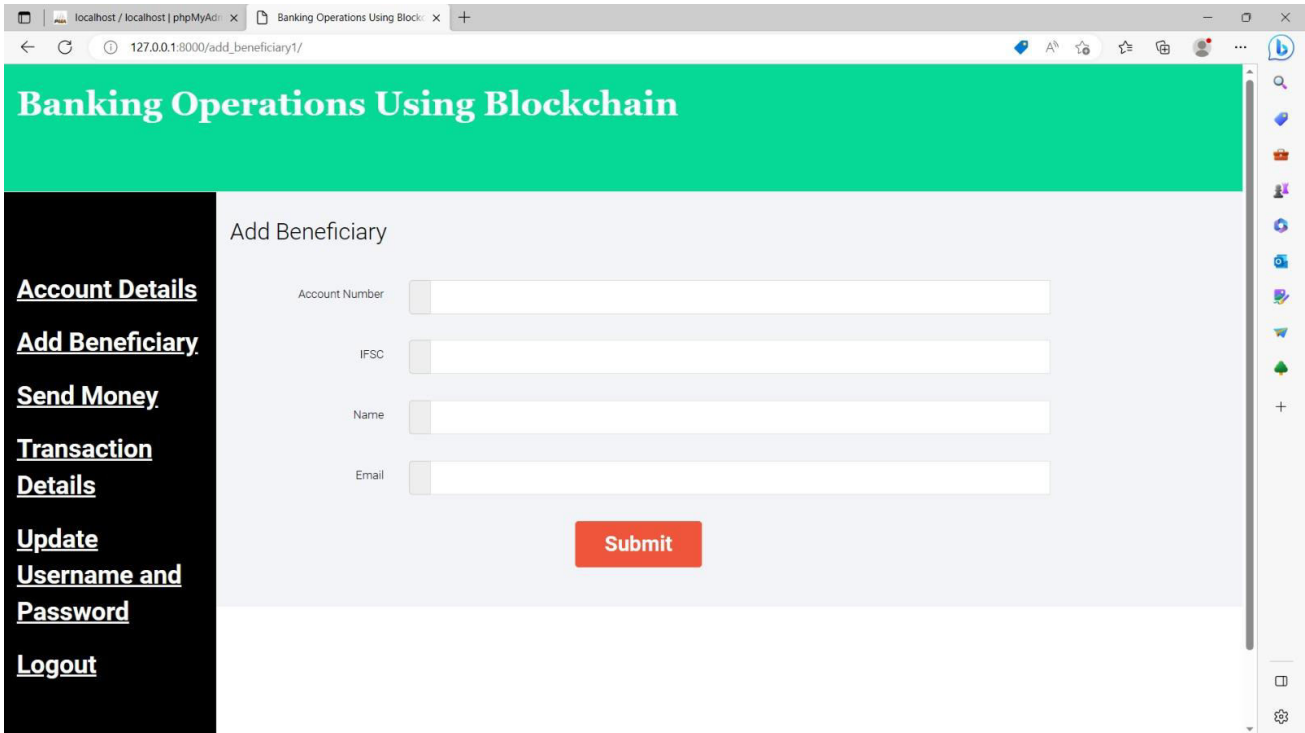


Fig (d) Add beneficiary to send money

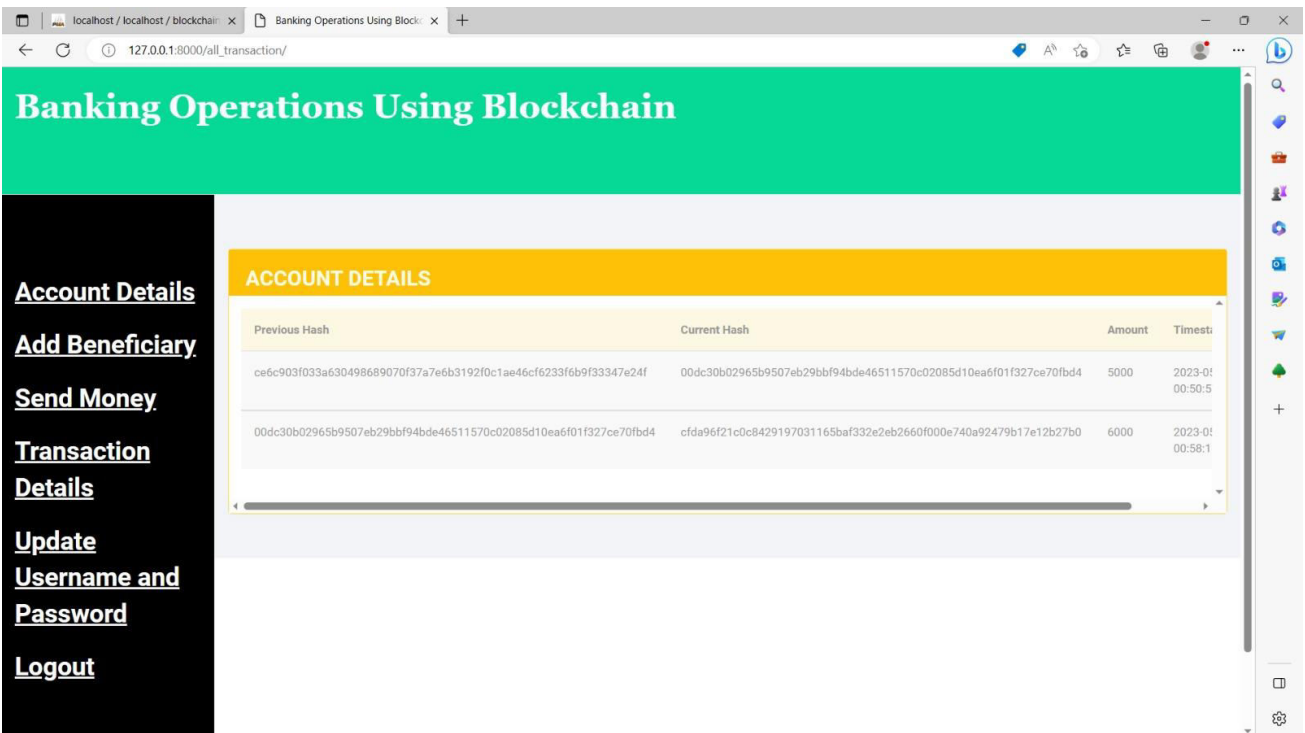


Fig (e) Customer transaction details



V. CONCLUSION

In this paper, we have proposed this project, a privacy preserving account-model blockchain that allows users to pay each other with strong privacy guarantees. It shows the practicability to resolve two privacy issues: transaction amounts and the linkage between a transaction sender and its recipient. To solve the above issues, we present a dual-balance model and design a two-step fund transfer procedure combining zkSNARK. More importantly, we provide a concrete construction of our project to show the compatibility to account-model blockchains, and give a formal security proof. Finally, we implement this project based on Go-Ethereum and Libsnark and design comprehensive experiments to evaluate its performance. A future direction is to utilize a new non-interactive zero knowledge scheme to achieve higher efficiency over account model blockchains without the trusted setup.

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